New Patent Claims

1. A method for monitoring an exhaust system of a motor vehicle having an internal combustion engine (1) and having monitoring electronics (7), a temperature sensor (6) for measuring an outlet-side exhaust-gas temperature (T2) being arranged at the outlet side (14) of an exhaust pipe section (15) which is intended to accommodate a component (4) with a purifying activity, and the monitoring electronics (7) compare a time curve of the outlet-side exhaust-gas temperature (T2) with a time curve of an inlet-side exhaust-gas temperature (T1) at the inlet side (13) of the exhaust pipe section (15), characterized in that the comparison comprises forming a time derivative.

2. The method as claimed in claim 1, characterized in that the monitoring electronics (7) determine the time derivatives (dT1/dt) and (dT2/dt) of the inlet-side exhaust-gas temperature (T1) and the outlet-side exhaust-gas temperature (T2), and the difference (dT1/dt - dT2/dt) between the derivatives.

3. The method as claimed in claim 2, characterized in that the monitoring electronics (7) generate a signal which indicates the absence of the component (4) with a purifying activity or the presence of an incorrect component if the difference (dT1/dt - dT2/dt) between the derivatives is within a predetermined range of values.

4. The method as claimed in claim 2, characterized in that the monitoring electronics (7) generate a signal which indicates the absence of the component (4) with a purifying activity or the presence of an incorrect component if the difference (dT1/dt - dT2/dt) between

the derivatives is within a predetermined range of values and the time derivative (dT1/dt) of the inlet-side exhaust-gas temperature (T1) is outside a predetermined range of values.

5. A method for monitoring an exhaust system of a motor vehicle having an internal combustion engine (1) and having monitoring electronics (7), a temperature sensor (6) for measuring an outlet-side exhaust-gas temperature (T2) being arranged at the outlet side (14) of an exhaust pipe section (15) which is intended to accommodate a component (4) with a purifying activity, and the monitoring electronics (7) compare a time curve of the outlet-side exhaust-gas temperature (T2) with a time curve of a calculated value (T2*) for the exhaust-gas temperature at the outlet side (14) of the exhaust pipe section (15), characterized in that the calculated value (T2*) is determined on the basis of the heat-storing and/or fluid-dynamic action of the component (4) with a purifying activity.

6. The method as claimed in claim 6, characterized in that the monitoring electronics (7) determine the time derivatives (dT2/dt) and (dT2*/dt) of the outlet-side exhaust-gas temperature (T2) and of the calculated temperature (T2*) and the difference (dT2*/dt - dT2/dt) between the derivatives.

7. The method as claimed in claim 6, characterized in that the monitoring electronics (7) generate a signal which indicates the absence of the component (4) with a purifying activity or the presence of an incorrect component if the difference (dT2*/dt - dT2/dt) between the derivatives is outside a predetermined range of values.

8. The method as claimed in claims 1 and 5, characterized in that the monitoring electronics (7) determine the time derivatives (dT1/dt) and (dT2/dt) of the inlet-side exhaust-gas temperature (T1) and of the outlet-side exhaust-gas temperature (T2) and also the time derivative (dT2*/dt) of the calculated value (T2*) for the exhaust-gas temperature at the outlet side (14) of the exhaust pipe section (15) and generate a signal which indicates the absence of the component (4) with a purifying activity or the presence of an incorrect component if the difference (dT2*/dt - dT2/dt) between the derivatives is outside a predetermined range of values and the time derivative (dT1/dt) of the inlet-side exhaust-gas temperature (T1) is outside a predetermined range of values.